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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/717,995

11/20/2003

James A. Proctor JR.

TAN-2-1514.01.US

7655

24374 7590 04/28/2009

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EXAMINER

CHO, UN C

ART UNIT

PAPER NUMBER

2617

MAIL DATE

DELIVERY MODE

04/28/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/717,995	Applicant(s) PROCTOR ET AL.	
	Examiner UN C. CHO	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 March 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 30-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 30-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/12/2009 has been entered.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

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3. Claims 30 – 38 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 – 20 of copending Application No. 10/767,843. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the current application encompass the same subject matter as the copending application but with a broader recitation. See the table below comparing claim 30 of the present application with claim 1 of the copending application.

Copending Application No. 10/767,843	Current Application No. 10/717,995
<p>Claim 1. (Previously presented) An apparatus for controlling timing of a reverse link signal from a subscriber unit comprising:</p> <p>a receiver that <u>receives a plurality of reverse link signals</u>, wherein each said signal includes a common code and unique orthogonal code;</p> <p><u>a correlator coupled to the receiver that associates a metric with each of the received reverse link signals</u>;</p> <p>a selector coupled to the correlator that selects the received reverse link signal associated with a best metric; and</p> <p><u>a timing controller coupled to the selector that determines a gross timing offset of the selected reverse link signal to align the selected reverse link signal with reverse link signals from other subscriber units</u> using the common code with a common phase.</p>	<p>Claim 30. (Previously presented) A method in a base station for aligning a field unit comprising:</p> <p><i>receiving a reverse link signal from a field unit;</i></p> <p><i>determining a gross timing offset with respect to reverse link channels from other field units sharing the same reverse link logical channel;</i></p> <p><i>calculating a metric associated with the received reverse link signal;</i> and</p> <p><i>selectively determining based on said metric whether said base station should control the alignment of said field unit.</i></p>

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 30, 31, 34 – 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin et al. (US 6,324,160 B1) in view of Chen et al. (US 2005/0054366 A1).

Regarding claim 30, Martin discloses receiving a reverse link signal from a field unit (individual signals are transmitted from mobile stations and arriving at the antenna array 10 of a base station; Col. 1, line 59 through Col. 2, line 3); determining a gross timing offset (propagation time estimation; Fig. 1, element 3) with respect to reverse link channels from other field units sharing the same reverse link logical channel (propagation time circuit 3 is responsible for determining the corresponding characteristic propagation time for each signal path; Col. 3, lines 29 – 43); calculating a metric associated with the received reverse link signal (determining the most powerful signal paths (path powers); Col. 4, lines 26 – 31).

However, Martin does not specifically disclose selectively determining based on said metric whether said base station should control the alignment of said field unit. In

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an analogous art, Chen discloses selectively determining based on said metric whether said base station should control the alignment of said field unit (a power control processor (Fig. 1, element 12) uses the reverse link quality measurement in determining the correct power control command and determines whether said base station should control the alignment of the mobile station based on the power control command received from the mobile station; Page 6, Paragraph 0068). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the technique of Chen to the system of Martin in order to provide an improved method for controlling the transmission power in a plurality of base stations simultaneously communicating with a mobile station in soft handoff.

Regarding claim 31, Chen discloses transmitting a message to other base stations whether said base station is going to control the alignment of said field unit (the base station controller (Fig. 1, element 2) receives the power control commands from base stations (Fig. 1, elements 4 and 6) and once the power control processor determines the correct power control command it is routed back to the base stations (Fig. 1, elements 4 and 6) accordingly; Page 6, Paragraph 0066).

Regarding claim 34, the combination of Martin and Chen discloses determining a power level of the reverse link signal (path powers; Martin: Col. 4, lines 26 – 31); and providing feedback of the power level to the field unit in the form of a power command or a power message (transmits the power control command to the appropriate base station so that the power control command gets to the mobile station (Page 6, Paragraphs 0065 – 0067)).

Regarding claim 35, Chen discloses wherein said base station does not control the alignment of said field unit (the base station forwards the power control command to the power control processor (Fig. 1, element 12) and that is where the correct power control command is generated and fed back to the base stations and ultimately to the mobile station; Page 6, Paragraph 0066).

Regarding claim 36, Chen discloses a power control processor (Fig. 1, element 12) that transmits the power control command to the appropriate base station so that the power control command gets to the mobile station (Page 6, Paragraph 0065). Chen does not specifically disclose transmitting a message to other base stations that said base station is not going to control the alignment of said field unit. However, it would have been obvious to one of ordinary skill in the art to understand that if one of the base stations does not receive the power control command from the power control processor then the base station that did not receive will not control the alignment of said field unit.

6. Claims 32 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin in view of Chen as applied to claim 30 above, and further in view of Kim et al. (US 6,470,001 B1).

Regarding claim 32, the combination of Martin and Chen does not specifically reporting said timing offset in the form of a timing command. In an analogous art, Kim teaches reporting said timing offset in the form of a timing command (the base station calculates a time alignment value and transmits time alignment parameters to the terminal; Col. 5, lines 19 – 26). Therefore, it would have been obvious to one of ordinary

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skill in the art at the time the invention was made to provide the technique of Kim to the modified system of Martin and Chen in order to provide an efficient method and apparatus for time alignment of a reverse link transmission during data transmission in a base station of a CDMA mobile communication system.

Regarding claim 33, Kim discloses causing said reverse link signal to be orthogonally aligned with the signals from said at least one other field unit on the reverse link logical channel (orthogonal codes are used on a reverse link for both user identification and to improve the performance of the reverse link; Col. 3, lines 11 – 16).

4. Claims 37 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin in view of Chen as applied to claim 36 above, and further in view of Savolainen (US 6,438,377 B1).

Regarding claim 37, the combination of Martin and Chen does not specifically disclose wherein said determination of said base station not to control said alignment is based on at least one of the following criteria: (a) a metric of the transmission path between the field unit and at least one of the other base stations exceeds a threshold for a predetermined time span, (b) a metric of the transmission path between the field unit and at least one of the other base stations exceeds a threshold relative to a metric of a transmission path between said base station and the field unit for a predetermined time span, (c) a metric of the transmission path between said base station and the field unit drops below an absolute metric, and (d) a metric of the transmission path between at least one of the other base stations and the field unit exceeds an absolute metric. In

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an analogous art, Savolainen discloses wherein a metric of the transmission path between said base station and the field unit drops below an absolute metric (Col. 5, lines 1 – 42). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the technique of Savolainen to the modified system of Martin and Chen in order to provide an efficient and reliable handover to the best neighboring cell while the number of handovers is minimized.

Regarding claim 38, Chen discloses wherein the metric includes at least one of the following: (a) power, (b) signal-to-noise ratio (SNR), (c) variance of the power, (d) variance of the SNR, (e) between the orthogonally aligned path and non-orthogonally aligned paths between the given field unit and said base station and said other base stations, relative ratio of the (i) power, (ii) SNR, (iii) variance of the power, or (iv) variance of the SNR, (f) bit error rate, and (g) energy per chip divided by the interference density (E_c/I_o) (Page 6, Paragraph 0066 and Paragraph 0068).

Response to Arguments

7. Applicant's arguments with respect to claims 30 – 38 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to UN C. CHO whose telephone number is (571)272-7919. The examiner can normally be reached on 8:00AM - 5:00PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Eng can be reached on 571-272-7495. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Un C Cho/
Examiner, Art Unit 2617